UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
999 18TH STREET - SUITE 300
DENVER, CO 80202-2466
Phone 800-227-8917
http://www.epa.gov/region08

May 19, 2004

Ref: 8EPR-EP

Mr. Art Compton, Director
Planning, Prevention and Assistance Division
Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Re: TMDL Approvals
Blackfoot Headwaters Sediment

Dear Mr. Compton:

We have completed our review of the sediment total maximum daily loads (TMDLs) as submitted by your office for the Blackfoot Headwaters TMDL Planning Area. The TMDLs are included in the document entitled Blackfoot Headwaters Planning Area Water Quality and Habitat Restoration Plan and TMDL for Sediment, transmitted to us for review and approval in correspondence dated April 9, 2004 and signed by you. In accordance with the Clean Water Act (33 U.S.C. 1251 et. seq.), we approve all aspects of the sediment TMDLs as developed for the Blackfoot Headwaters TMDL Planning Area. Enclosure 1 to this letter provides a summary of the elements of the TMDLs and Enclosure 2 provides details of our review of the TMDLs.

Based on our review we feel the separate TMDL elements listed in Enclosure 2 adequately address the pollutants of concern, taking into consideration seasonal variation and a margin of safety. In approving these TMDLs, EPA affirms that the TMDLs have been established at a level necessary to attain and maintain the applicable water quality standards and has the necessary components of an approvable TMDL.

EPA has been in contact with the United States Fish and Wildlife Service (FWS) regarding whether and, if so, how EPA's approval of the Blackfoot Headwaters TMDLs may affect the continued existence of any endangered or threatened species listed under the Endangered Species Act (ESA) or the designated critical habitat of any such species. EPA has not determined that today's approval may have such an effect. Therefore, consistent with the terms of a consent decree in the lawsuit of Friends of the Wild Swan, *et al.*, v. U.S. Environmental Protection Agency, *et al.*, Civil Action No. CV99-87-M-LBE, United States District Court for the District of Montana, Missoula Division, EPA has decided to approve these TMDLs contigent upon the outcome of consultation with the FWS.

Thank you for your submittal. If you have any questions concerning this approval, feel free to contact Ron Steg of my staff at (406) 457-5024.

Sincerely,

Max H. Dodson
Assistant Regional Administrator
Ecosystems Protection and Remediation

Enclosures

cc:

Jack R. Tuholske, Attorney
401 North Washington
P.O. Box 7458
Missoula, MT 59807

Claudia Massman, Attorney
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Robert Ray
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Dean Yashan
Montana Department of Environmental Quality
P.O. Box 200901
Helena, MT 59620-0901

Tina-Bernd-Cohen
Blackfoot Challenge
P.O. Box 1498
Ovando, MT 59854

ENCLOSURE 1

Table 1. Blackfoot Headwaters TMDL Planning Area Sediment TMDL Summary Information.	
Water Bodies & Pollutants of Concern	4 individual water body/pollutant combinations addressed as follows: - Blackfoot River from Landers Fork to Nevada Creek (pollutant: sediment) - Arrastra Creek (pollutant: sediment) - Poorman Creek (pollutant: sediment) - Willow Creek (pollutant: sediment)
Impaired Beneficial Uses	- Blackfoot River from Landers Fork to Nevada Creek (impaired uses: aquatic life; cold water fish) - Arrastra Creek (impaired uses: aquatic life; cold water fish) - Poorman Creek (impaired uses: aquatic life; cold water fish) - Willow Creek (impaired uses: aquatic life; cold water fish)
Pollutant Sources	- Sediment: Road runoff, road traction sanding, eroding streambanks, and erosion from upland areas
Target Development Strategies	- Substrate composition targets for fine sediment in two gradations (<2.38 mm and <6.35 mm) - Biota (periphyton, macroinvertebrate) equal to or better than reference conditions - Clinger taxa richness $\geq$ 14 - Additional targets in some of the stream reaches to improve width to depth ratios, riparian conditions, and adjust culvert sizing
TMDLs	- Expressed as a percent reduction in annual sediment load delivered to the streams. The reduction is based on the load determined necessary to meet the biological and sediment substrate targets.

Table 1. Blackfoot Headwaters TMDL Planning Area Sediment TMDL Summary Information.	
Allocations	- 15% reduction in total yearly sediment load from eroding banks along the Blackfoot River (Landers Fork to Nevada Creek). The reductions from eroding banks along Arrastra Creek, Poorman Creek and Willow Creek are 30%, 75% and 75%, respectively. - 30% reduction of sediment loading from all roads in the watershed. - Performance based waste load allocations for the Blackfoot River (Landers Fork to Nevada Creek) and Willow Creek based on designs and procedures to minimize road sanding impacts - Performance based waste load allocation for the Blackfoot River (Landers Fork to Nevada Creek) based on storm water permit conditions to minimize sediment loading during construction. - Additional performance based load allocation to improve or maintain riparian conditions along the upper reach of Willow Creek to minimize impacts from grazing, and removal of floodplain restriction associated with the bridge crossing at West Flesher Road.
Restoration Strategies	- Reach prioritization for restoration activities within the Blackfoot River segments (Landers Fork to Nevada Creek) - Management of erosion-prone hillslope areas to prevent or reduce sediment delivery - Road condition improvements and road maintenance and sanding BMPs to reduce sediment loading - Plum Creek Timber Company's Native Fish Habitat Conservation Plan to support restoration goals in the watershed (Plum Creek lands in Arrastra and Poorman Creek drainages are high priority for road improvements) - Cooperative forest stewardship program to promote sustainable timber and grazing management on private and public lands throughout the watershed - Stream corridor restoration efforts for eroding streambanks, structural encroachments in the floodplain, riparian degradation from grazing, and fish passage barriers - Adaptive management approach based on continual evaluation of stream conditions and targets, implementation of restoration activities, and implementation monitoring throughout the watershed
Margin of Safety	- Sediment targets apply during various flow conditions - Adaptive management approach that commits to future monitoring and assessment - Sediment load allocation for roads specifies a high percent reduction than is necessary - Percent fines targets based on conservative assumptions for determination of streams for reference - Multiple targets for biota and physical conditions set to address sediment impairments - Impairment determinations consider all relevant data and seasonality in a conservative manner

Table 1. Blackfoot Headwaters TMDL Planning Area Sediment TMDL Summary Information.	
	- Significant monitoring efforts associated with sediment related watershed characterization and restoration efforts
Seasonal Considerations	- Sediment substrate composition conditions evaluated based on timing of spawning for species of concern - Index period for biota sampling occurs when conditions are likely to be most stressful to aquatic life - High flow / runoff conditions are incorporated into the sediment loading model - Sediment targets apply during various flow conditions - Existing and future monitoring addresses varying flow conditions

ENCLOSURE 2

EPA REGION VIII MONTANA OFFICE TMDL REVIEW FORM

Document Name:	**Water Quality Restoration Plan for Sediment in the Blackfoot Headwaters TMDL Planning Area (April 2004)**
Submitted by:	**MTDEQ**
Date Received:	**April 15, 2004**
Review Date:	**May 7, 2004**
Reviewer:	**Vern Berry**
Formal or Informal Review?	**FORMAL**

This document provides a standard format for the EPA Montana Office to provide comments to the Montana Department of Environmental Quality on TMDL documents provided to the EPA for either official formal, or informal review. All TMDL documents are measured against the following 12 review criteria:

1. Water Quality Impairment Status
2. Water Quality Standards
3. Water Quality Targets
4. Significant Sources
5. Total Maximum Daily Load
6. Allocation
7. Margin of Safety and Seasonality
8. Monitoring Strategy
9. Restoration Strategy
10. Public Participation
11. Endangered Species Act Compliance
12. Technical Analysis

Each of the 12 review criteria are described below to provide the rational for the review, followed by EPA's comments. This review is intended to ensure compliance with the Clean Water Act and also to ensure that the reviewed documents are technically sound and the conclusions are technically defensible. This document review form incorporates, by reference, the summary of TMDL elements presented in Enclosure 1.

1. Water Quality Impairment Status

Criterion Description – Water Quality Impairment Status

TMDL documents must include a description of the listed water quality impairments. While the 303(d) list identifies probable causes and sources of water quality impairments, the information contained in the 303(d) list is generally not sufficiently detailed to provide the reader with an adequate understanding of the impairments. TMDL documents should include a thorough description/summary of all available water quality data such that the water quality impairments are clearly defined and linked to the impaired beneficial uses and/or appropriate water quality

- ☑ Satisfies Criterion
- ☐ Satisfies Criterion. Questions or comments provided below should be considered.
- ☐ Partially satisfies criterion. Questions or comments provided below need to be addressed.
- ☐ Criterion not satisfied. Questions or comments provided below need to be addressed.
- ☐ Not a required element in this case. Comments or questions provided for informational purposes.

This document is organized by water body. For each waterbody the impairment status, data collection and assessment methodology, water quality goals and targets, TMDLs, and load allocations are discussed separately. In general, the authors first evaluated all of the available data used to support the 303(d) listings followed by a review of any other data that may have been available considering sediment chemistry, biology and stream conditions. The impairment status is clearly articulated and appears to be adequately supported by recent data.

2. Water Quality Standards

Criterion Description – Water Quality Standards

The TMDL document must include a description of all applicable water quality standards for all affected jurisdictions. TMDLs result in maintaining and attaining water quality standards. Water quality standards are the basis from which TMDL's are established and the TMDL targets are derived, including the numeric, narrative, use classification, and antidegradation components of the standards.

- ☑ Satisfies Criterion
- ☐ Satisfies Criterion. Questions or comments provided below should be considered.
- ☐ Partially satisfies criterion. Questions or comments provided below need to be addressed.
- ☐ Criterion not satisfied. Questions or comments provided below need to be addressed.
- ☐ Not a required element in this case. Comments or questions provided for informational purposes.

The applicable water quality standards for sediment are narrative. They are summarized in Table 1-6 of the TMDL document. Typically, for narrative standards such as sediment a reference condition is used to determine if the water quality standards are being achieved and to aid in developing TMDL targets. Reference conditions are those that are necessary for the waterbody to support its present and future beneficial uses when all reasonable land, soil and water conservation practices have been applied.

3. Water Quality Targets

Criterion Description – Water Quality Targets

Quantified targets or endpoints must be provided to address each listed pollutant/water body combination. Target values must represent achievement of applicable water quality standards and support of associated beneficial uses. For pollutants with numeric water quality standards, the numeric criteria are generally used as the TMDL target. For pollutants with narrative standards, the narrative standard must be translated into a measurable value. At a minimum, one target is required for each pollutant/water body combination. It is generally desirable, however, to include several targets that represent achievement of the standard and support of beneficial uses (e.g., for a sediment impairment issue it may be appropriate to include targets representing water column sediment such as TSS, embeddeness, stream morphology, up-slope conditions, and a measure of

- ☑ Satisfies Criterion
- ☐ Satisfies Criterion. Questions or comments provided below should be considered.
- ☐ Partially satisfies criterion. Questions or comments provided below need to be addressed.
- ☐ Criterion not satisfied. Questions or comments provided below need to be addressed.
- ☐ Not a required element in this case. Comments or questions provided for informational purposes.

The water quality targets for sediment in this watershed primarily include targets for: substrate composition, biology (periphton and macroinvertebrate) and clinger taxa richness. Additional targets for some of the stream reaches address improvements to the stream width to depth ratios, riparian conditions, and adjust culvert sizing.

This suite of targets appears to be appropriate.

4. Significant Sources

Criterion Description – Significant Sources

TMDLs must consider all significant sources of the stressor of concern. All sources or causes of the stressor must be identified or accounted for in some manner. The detail provided in the source assessment step drives the rigor of the allocation step. In other words, it is only possible to specifically allocate quantifiable loads or load reductions to each significant source when the relative load contribution from each source has been estimated. Ideally, therefore, the pollutant load from each significant source should be quantified. This can be accomplished using site-specific monitoring data, modeling, or application of other assessment techniques. If insufficient time or resources are available to accomplish this step, a phased/adaptive management approach can be employed so long as the approach is clearly defined in the document.

- ☑ Satisfies Criterion
- ☐ Satisfies Criterion. Questions or comments provided below should be considered.
- ☐ Partially satisfies criterion. Questions or comments provided below need to be addressed.
- ☐ Criterion not satisfied. Questions or comments provided below need to be addressed.
- ☐ Not a required element in this case. Comments or questions provided for informational purposes.

The primary sources of sediment loading in this watershed have been identified to be road runoff, road traction sanding, eroding streambanks, and erosion from upland areas. The Blackfoot River (Landers Fork to

Nevada Creek) sediment sources originate from upland erosion associated with timber harvesting, erosion on and along roads, and erosion of the stream banks. Sediment sources for Arrastra Creek, Poorman Creek and Willow Creek are similar those of the Blackfoot River, except that grazing has been identified as an additional source along some stretches of the creeks. Sediment loading associated with road sanding has also been identified as a source in parts of the watershed.

5. TMDL

Criterion Description – Total Maximum Daily Load

TMDLs include a quantified pollutant reduction target. According to EPA reg (see 40 C.F.R. 130.2(i)) TMDLs can be expressed as mass per unit of time, toxicity, % load reduction, or other measure. TMDLs must address, either singly or in combination, each listed pollutant/water body combination.

- ☑ Satisfies Criterion
- ☐ Satisfies Criterion. Questions or comments provided below should be considered.
- ☐ Partially satisfies criterion. Questions or comments provided below need to be addressed.
- ☐ Criterion not satisfied. Questions or comments provided below need to be addressed.
- ☐ Not a required element in this case. Comments or questions provided for informational purposes.

The following sediment TMDLs are specified for the impaired streams in this watershed:

- Blackfoot River from Landers Fork to Nevada Creek - 15% reduction in annual sediment load
- Arrastra Creek - 30% reduction in annual sediment load
- Poorman Creek - 30% reduction in annual sediment load from roads, and 75% reduction in sediment load from eroding banks (from anthropogenic causes)
- Willow Creek - 30% reduction in annual sediment load from roads, and 75% reduction in sediment load from eroding banks (from anthropogenic causes)

These sediment TMDLs are appropriate.

6. Allocation

Criterion Description – Allocation

TMDLs apportion responsibility for taking actions or allocate the available assimilative capacity among the various point, nonpoint, and natural pollutant sources. Allocations may be expressed in a variety of ways such as by individual discharger, by tributary watershed, by source or land use category, by land parcel, or other appropriate scale or dividing of responsibility. A performance based allocation approach, where a detailed strategy is articulated for the application of BMPs, may also be appropriate for non point sources.

In cases where there is substantial uncertainty regarding the linkage between the proposed allocations and achievement of water quality standards, it may be necessary to employ a phased or adaptive management approach (e.g., establish a monitoring plan to determine if the proposed allocations are, in fact, leading to the desired water quality improvements).

Allocating load reductions to specific sources is generally the most contentious and politically sensitive component of the TMDL process. It is also the step in the process where management direction is provided to actually achieve the desired load reductions. In many ways, it is a prioritization of restoration activities that need to occur to restore water quality. For these reasons, every effort should be made to be as detailed as possible and also, to base all conclusions on the best available scientific principles.

- ☑ Satisfies Criterion
- ☐ Satisfies Criterion. Questions or comments provided below should be considered.
- ☐ Partially satisfies criterion. Questions or comments provided below need to be addressed.
- ☐ Criterion not satisfied. Questions or comments provided below need to be addressed.
- ☐ Not a required element in this case. Comments or questions provided for informational purposes.

The nonpoint source allocation approach varies by water body and source. For waters listed as impaired for sediment, allocations are specified for all sources that have been identified to date. Where uncertainty exists regarding undefined sources, an adaptive management approach has been proposed.

7. Margin of Safety and Seasonality

Criterion Description – Margin of Safety/Seasonality

A margin of safety (MOS) is a required component of the TMDL that accounts for the uncertainty about the relationship between the pollutant loads and the quality of the receiving water body (303(d)(1)(c)). The MOS can be implicitly expressed by incorporating a margin of safety into conservative assumptions used to develop the TMDL. In other cases, the MOS can be built in as a separate component of the TMDL (in this case, quantitatively, a TMDL = WLA + LA + MOS). In all cases, specific documentation describing the rational for the MOS is required.

Seasonal considerations, such as critical flow periods (high flow, low flow), also need to be considered when establishing TMDLs , targets, and allocations.

☑ Satisfies Criterion
☐ Satisfies Criterion. Questions or comments provided below should be considered.
☐ Partially satisfies criterion. Questions or comments provided below need to be addressed.
☐ Criterion not satisfied. Questions or comments provided below need to be addressed.
☐ Not a required element in this case. Comments or questions provided for informational purposes.

Margin of Safety and Seasonality are adequately applied in the subject TMDL document.

8. Monitoring Strategy

Criterion Description – Monitoring Strategy

Many TMDL's are likely to have significant uncertainty associated with selection of appropriate numeric targets and estimates of source loadings and assimilative capacity. In these cases, a phased TMDL approach may be necessary. For Phased TMDLs, it is EPA's expectation that a monitoring plan will be included as a component of the TMDL documents to articulate the means by which the TMDL will be evaluated in the field, and to provide supplemental data in the future to address any uncertainties that may exist when the document is prepared.

At a minimum, the monitoring strategy should:

- *Articulate the monitoring hypothesis and explain how the monitoring plan will test it.*
- *Address the relationships between the monitoring plan and the various components of the TMDL (targets, sources, allocations, etc.).*
- *Explain any assumptions used.*
- *Describe monitoring methods.*
- *Define monitoring locations and frequencies, and list the responsible parties.*

☑ Satisfies Criterion
☐ Satisfies Criterion. Questions or comments provided below should be considered.
☐ Partially satisfies criterion. Questions or comments provided below need to be addressed.
☐ Criterion not satisfied. Questions or comments provided below need to be addressed.
☐ Not a required element in this case. Comments or questions provided for informational purposes.

The TMDL details the monitoring strategy in two parts which include: 1) implementation monitoring; and 2) additional assessment and watershed characterization monitoring. The implementation monitoring is broken down further into sections which describe the components focused needs to: 1) meet the restoration targets; 2) meet the specified load allocations; and 3) determine the effectiveness of the restoration activities. Each of these subareas of monitoring focus will allow further refinements to ensure the water quality goals will be met. The additional monitoring is further categorized based on priority in order to complete delineation of impairments and sources, and to support the adaptive management approach.

The monitoring strategy described in the document adequately addresses this TMDL criterion.

9. Restoration Strategy

Criterion Description – Restoration Strategy

At a minimum, sufficient information should be provided in the TMDL document to demonstrate that if the TMDL were implemented, water quality standards would be attained or maintained. Adding additional detail regarding the proposed approach for the restoration of water quality is not currently a regulatory requirement, but is considered a value added component of a TMDL document.

- ☑ Satisfies Criterion
- ☐ Satisfies Criterion. Questions or comments provided below should be considered.
- ☐ Partially satisfies criterion. Questions or comments provided below need to be addressed.
- ☐ Criterion not satisfied. Questions or comments provided below need to be addressed.
- ☐ Not a required element in this case. Comments or questions provided for informational purposes.

The restoration strategy for the Blackfoot River (Landers Fork to Nevada Creek) , Arrastra Creek, Poorman Creek and Willow Creek relies on completion of the current water quality restoration commitments in the Blackfoot Headwaters Planning Area Implementation Strategy. The goals of the water quality targets are consistent with the goals of this water quality restoration plan and there is currently reasonable assurance that these activities will take place.

Some of the parties involved in the watershed restoration activities include:

- The State of Montana Department of Transportation - implement BMPs for their road sanding;
- Plum Creek Timber Company - implementation of the Native Fish Habitat Conservation Plan;
- Other state, federal and local partners - provide technical assistance and resources to guide implementation of the other watershed-wide management strategies, stream corridor restoration strategies, and the 303(d) restoration strategies.

The potential funding options for restoration are proposed including state and federal sources typically used to address non-point source pollution.

10. Public Participation

Criterion Description – Public Participation

The fundamental requirement for public participation is that all stakeholders have an opportunity to be part of the process. Public participation should fit the needs of the particular TMDL.

- ☑ Satisfies Criterion
- ☐ Satisfies Criterion. Questions or comments provided below should be considered.
- ☐ Partially satisfies criterion. Questions or comments provided below need to be addressed.
- ☐ Criterion not satisfied. Questions or comments provided below need to be addressed.
- ☐ Not a required element in this case. Comments or questions provided for informational purposes.

A 30-day public comment period was provided beginning December 26, 2003. DEQ's responses to public comment are presented in Appendix N. Also, a public meeting was held in Lincoln, MT on January 21, 2004 to provide an overview of the TMDL and allow for additional public feedback.

Additionally, because a large part of this plan revolves around restoration planning efforts coordinated by the Blackfoot Challenge, a grassroots watershed group, the public has had opportunity to review and comment on the components of the plan throughout the TMDL development process.

11. Technical Analysis

Criterion Description – Technical Analysis

*TMDLs must be supported by an appropriate level of technical analysis. It applies to **all** of the components of a TMDL document. It is vitally important that the technical basis for **all** conclusions be articulated in a manner that is easily understandable and readily apparent to the reader. Of particular importance, the cause and effect relationship between the pollutant and impairment and between the selected targets, sources, TMDLs, and allocations needs to be supported by an appropriate level of technical analysis.*

- ☑ Satisfies Criterion
- ☐ Satisfies Criterion. Questions or comments provided below should be considered.
- ☐ Partially satisfies criterion. Questions or comments provided below need to be addressed.
- ☐ Criterion not satisfied. Questions or comments provided below need to be addressed.
- ☐ Not a required element in this case. Comments or questions provided for informational purposes.

The level of technical analysis surrounding water quality impairment status, the targets, TMDLs, and allocations is adequate. The conclusions are sufficiently supported by the available data, supplemental studies, and supporting literature.

12. Endangered Species Act Compliance

Criterion Description – Endangered Species Act Compliance

EPA's approval of a TMDL may constitute an action subject to the provisions of Section 7 of the Endangered Species Act ("ESA"). EPA will consult, as appropriate, with the US Fish and Wildlife Service (USFWS) to determine if there is an effect on listed endangered and threatened species pertaining to EPA's approval of the TMDL. The responsibility to consult with the USFWS lies with EPA and is not a requirement under the Clean Water Act for approving TMDLs. States are encouraged, however, to participate with FWS and EPA in the consultation process and, most importantly, to document in its TMDLs the potential effects (adverse or beneficial) the TMDL may have on listed as well as candidate and proposed species under the ESA.

- ☐ Satisfies Criterion
- ☐ Satisfies Criterion. Questions or comments provided below should be considered.
- ☐ Partially satisfies criterion. Questions or comments provided below need to be addressed.
- ☐ Criterion not satisfied. Questions or comments provided below need to be addressed.
- ☑ Not a required element in this case. Comments or questions provided for informational purposes.

The EPA will consult with the US Fish and Wildlife Service under the provisions of Section 7(a)(2) of the ESA regarding its approval of these TMDLs. For now, the approval is contingent based on the outcome of such consultation.